This listing of the claims will replace all prior versions and listings of claims in the application:

LISTING OF THE CLAIMS

1. (currently amended) ~~In a~~ A device ~~having a sample vessel~~ for ~~processing and/or analyzing~~ preparing a sample molecule for processing and/or analysis, the improvement comprising employing:

a reservoir holding a fluid ~~sample~~ comprised of the sample molecule;

an ejector comprising an acoustic radiation generator for generating acoustic radiation and a focusing means for focusing the acoustic radiation at a focal point near the surface of the fluid ~~sample~~; and

a means for positioning the ejector in acoustic coupling relationship to the reservoir to eject a droplet of the fluid therefrom;~~sample into the sample vessel~~.

a substrate having a designated site on a surface thereof adapted to receive a droplet of fluid from the reservoir;

a means for positioning the substrate relative to the reservoir so that the designated site on the substrate surface is placed in droplet-receiving relationship to the reservoir, thereby allowing deposition of the analyte molecule thereon; and

a means for applying energy to the designated site in a manner sufficient to ionize the analyte molecule and to release the analyte molecule from the substrate surface for analysis.

2. (currently amended) The device of claim 1, ~~wherein the sample vessel is~~ further comprising an ionization chamber in position to receive the ionized and released analyte molecule.

3. (original) The device of claim 2, wherein the device is a mass spectrometer.

4. (original) The device of claim 3, wherein the mass spectrometer is a time-of-flight mass spectrometer.

5. (currently amended) The device of claim 1, wherein the fluid ~~sample~~ occupies a volume of no more than about 100 μL

6. (currently amended) The device of claim 5, wherein the fluid ~~sample~~ occupies a volume of no more than about 10 μL.

7. (currently amended) The device of claim 6, wherein the fluid ~~sample~~ occupies a volume of no more than about 1 μL.

8. (currently amended) The device of claim 7, wherein the fluid ~~sample~~ occupies a volume of about 10 pL to about 100 nL.

9. (original) The device of claim 1, wherein the ejector is configured to eject a droplet having a volume of no more than about 1 nL.

10. (original) The device of claim 9, wherein the ejector is configured to eject a droplet having a volume of no more than about 1 pL.

11. (original) The device of claim 10, wherein the ejector is configured to eject a droplet having a volume of no more than about 100 fL.

12. (currently amended) The device of claim 1, wherein the ejector is configured to eject no more than about 5 percent of the fluid ~~sample~~in the reservoir per droplet.

13. (original) The device of claim 1, wherein the sample molecule has a molecular weight of about 100 daltons to about 100 kilodaltons.

14. (original) The device of claim 13, wherein the molecular weight is about 1 to about 100 kilodaltons.

15. (currently amended) The device of claim 1, wherein the fluid ~~sample~~ further comprises water.

16. (original) The device of claim 1, wherein the sample molecule is nonmetallic.

17. (original) The device of claim 16, wherein the sample molecule is an organic compound.

18. (original) The device of claim 17, wherein the organic compound is a biomolecule.

19. (original) The device of claim 18, wherein the biomolecule is nucleotidic

20. (original) The device of claim 18, wherein the biomolecule is peptidic.

21. (currently amended) The device of claim 1, further comprising a detector for detecting reflected acoustic radiation from the fluid ~~sample~~.

22. (currently amended) The device of claim 2, further comprising a charging means for electrically charging the fluid ~~sample~~.

23. (currently amended) The device of claim 22, wherein the charging means is configured to electrically charge the surface of the fluid ~~sample~~.

24. (currently amended) The device of claim 22, wherein the charging means is configured to electrically charge the entire fluid ~~sample~~.

25. (original) The device of claim 22, further comprising a charged surface within the ionization chamber that attracts or repels the droplet.

26. (original) The device of claim 25, wherein the charged surface is a surface of a multipole analyzer.

27. (original) The device of claim 26, wherein the multipole analyzer is a quadrupole analyzer.

28. (original) The device of claim 2, wherein the reservoir is located within the ionization chamber.

29. (original) The device of claim 1, wherein the sample vessel comprises a microfluidic device.

30. (original) The device of claim 1, wherein the sample vessel represents a portion of a microfluidic device.

31. (original) The device of claim 30, wherein the reservoir represents a portion of an additional microfluidic device.

32. (currently amended) ~~A~~The method of claim 126, wherein the~~for introducing a~~ sample molecule is introduced into a sample vessel of a device for processing and/or analyzing ~~a~~the sample molecule~~, comprising:~~

~~(a) providing a reservoir holding a fluid sample comprised of the sample molecule; and~~

~~(b) directing focused acoustic radiation at a point near the surface of the fluid sample to eject a droplet of the fluid sample from the surface of the fluid sample along a predetermined trajectory into the sample vessel of the device~~.

33. (original) The method of claim 32, wherein the sample vessel is an ionization chamber.

34. (original) The method of claim 33, wherein the device is a mass spectrometer.

35. (original) The method of claim 34, wherein the mass spectrometer is a time-of-flight mass spectrometer.

36. (currently amended) The method of claim ~~32~~126, further comprising repeating step ~~(b)~~(a).

37. (original) The method of claim 36, wherein the ejected droplets are substantially identical in size.

38. (currently amended) The method of claim 36, wherein no more than about 5 percent of the ~~sample~~ fluid in the reservoir is ejected per droplet.

39-40. (canceled)

41. (currently amended) The method of claim ~~32~~126, wherein the sample molecule has a molecular weight of about 100 daltons to about 100 kilodaltons.

42. (original) The method of claim 41, wherein the molecular weight is about 1 to about 100 kilodaltons.

43. (canceled)

44. (currently amended) The method of claim ~~32~~126, wherein the fluid ~~sample~~ further comprises water.

45. (currently amended) The method of claim ~~32~~126, wherein the sample molecule is nonmetallic.

46. (currently amended) The method of claim ~~45~~126, wherein the sample molecule an organic compound.

47. (original) The method of claim 46, wherein the organic compound is a biomolecule.

48. (original) The method of claim 47, wherein the biomolecule is nucleotidic.

49. (original) The method of claim 47, wherein the biomolecule is peptidic.

50. (currently amended) The method of claim ~~32~~126, further comprising, ~~after step (a) and~~ before step ~~(b)~~(a), (a') transmitting acoustic radiation through the fluid ~~sample~~in the reservoir and detecting for reflected acoustic radiation.

51-53. (canceled)

54. (original) The method of claim 32, wherein the sample vessel comprises a microfluidic device.

55. (original) The method of claim 32, wherein the sample vessel represents a portion of a microfluidic device.

56. (original) The method of claim 55, wherein the reservoir represents a portion of an additional microfluidic device.

57. (currently amended) ~~In a~~ A device ~~having a sample vessel for processing and/or analyzing a plurality of sample molecules, the improvement comprising employing~~for preparing a contiguous sample surface for analysis:

a ~~plurality of reservoirs each~~ reservoir holding ~~a~~an analysis-enhancing fluid ~~sample comprised of a sample molecule~~;

an ejector comprising an acoustic radiation generator for generating acoustic radiation and a focusing means for focusing the acoustic radiation at a focal point near the surface of the analysis-enhancing fluid ~~sample~~; and

a means for positioning the ejector in acoustic coupling relationship to ~~each of the reservoirs~~the reservoir to eject a droplet of the analysis-enhancing fluid therefrom;~~sample into the sample vessel~~

a sample having a designated site on a contiguous surface thereof adapted to receive a droplet of the analysis-enhancing fluid from the reservoir, wherein the designated site contains an analyte molecule;

a means for positioning the sample so that the designated site on the contiguous sample surface is placed in droplet-receiving relationship to the reservoir, thereby allowing deposition of the analysis-enhancing fluid thereon; and

a means for applying energy to the designated site in a manner sufficient to ionize the analyte molecule and to release the analyte molecule from the designated site for analysis.

58. (currently amended) The device of claim 57, ~~wherein the sample vessel is~~ further comprising an ionization chamber in position to receive the ionized and released analyte molecule.

59. (currently amended) The device of claim ~~57~~58, wherein the device is a mass spectrometer.

60. (currently amended) The device of claim 57, ~~wherein the~~ comprising a plurality of reservoirs are arranged in an array.

61. (currently amended) The device of claim 57, ~~wherein the~~ comprising a plurality of reservoirs ~~are~~ provided as integrated members of a single substrate.

62. (original) The device of claim 61, wherein the reservoirs comprise designated sites on a surface of the substrate surface.

63. (original) The device of claim 62, wherein the substrate surface is substantially flat.

64. (currently amended) The device of claim 57, wherein ~~at least one~~ the sample molecule is a biomolecule.

65. (currently amended) The device of claim 57, further comprising a detector for detecting reflected acoustic radiation from the fluid ~~sample~~in the reservoir.

66-68. (canceled)

69. (original) The device of claim 58, further comprising a charged surface within the ionization chamber.

70. (original) The device of claim 69, wherein the charged surface is a surface of a multipole analyzer.

71. (original) The device of claim 70, wherein the multipole analyzer is a quadrupole analyzer.

72. (original) The device of claim 57, wherein the device comprises 96 reservoirs.

73. (original) The device of claim 72, wherein the device comprises 384 reservoirs.

74. (original) The device of claim 73, wherein the device comprises 1536 reservoirs.

75. (canceled).

76. (currently amended) The device of claim 57, ~~wherein the sample vessel comprises~~ further comprising a microfluidic device in position to receive the ionized and released analyte molecule.

77-125. (canceled)

126. (currently amended) A method for preparing a ~~plurality of sample molecules~~ sample molecule for analysis, comprising:

(a) ~~preparing an array comprised of a plurality of sample molecules on a substrate surface by~~ applying focused acoustic energy to ~~each of~~ a ~~plurality of~~ fluid-holding ~~reservoirs, each of said reservoirs holding~~ reservoir to eject a droplet of fluid containing a sample molecule ~~in a fluid to be applied~~ therefrom to a designated site on ~~the~~a substrate surface; and

(b) ~~successively~~ applying sufficient energy to ~~each~~the site to ionize ~~the sample molecules~~ and release the sample ~~molecules~~molecule from the substrate surface for analysis.

127. (currently amended) The method of claim ~~126~~162, wherein step (b) comprises bombarding ~~at least one~~the site with photons.

128. (currently amended) The method of claim 127, wherein photonic bombardment is carried out using a laser.

129. (currently amended) The method of claim 126, wherein step (b) comprises bombarding ~~at least one~~the site with electrons.

130. (currently amended) The method of claim 126, wherein step (b) comprises bombarding ~~at least one~~ the site with ions.

131. (currently amended) The method of claim 126, wherein step (b) comprises heating ~~at least one~~ the site.

132. (currently amended) The method of claim 126, wherein step (b) comprises directing focused acoustic energy to ~~at least one~~ the site.

133. (currently amended) The method of claim 126, wherein step (b) comprises passing an electrical current through ~~at least one~~ the site.

134. (currently amended) The method of claim 126, further comprising, after step (b), determining the mass of the ionized sample ~~molecules~~molecule.

135-144. (canceled)

145. (currently amended) A method for preparing a contiguous sample surface for analysis, comprising:

(a) providing a reservoir holding an analysis-enhancing fluid;

(b) providing a sample having a contiguous surface such that a designated site thereon is placed in droplet-receiving relationship to the fluid holding reservoir; and

(c) applying focused acoustic energy in a manner effective to eject a droplet of the analysis-enhancing fluid from the reservoir such that the droplet is deposited on the sample surface at ~~a~~the designated site; and

(d) subjecting the sample to conditions sufficient to allow the analysis-enhancing fluid to interact with the sample surface at the designated site to render the sample surface at the designated site suitable for analysis.

146. (original) The method of claim 145, wherein the analysis-enhancing fluid comprises an analysis-enhancing moiety and a carrier fluid.

147. (original) The method of claim 145, wherein the carrier fluid is evaporated from the sample surface in step (d).

148. (original) The method of claim 145, wherein the analysis-enhancing fluid is solidified on the sample surface in step (d).

149. (original) The method of claim 145, wherein the analysis-enhancing fluid comprises a mass-spectrometry matrix material.

150. (original) The method of claim 149, wherein the mass-spectrometry matrix material is a photoabsorbing matrix material.

151. (original) The method of claim 145, wherein step (c) is repeated such that a plurality of droplets is deposited on the sample surface.

152. (currently amended) The method of claim ~~141~~151, wherein the plurality of droplets is deposited on the sample surface at the same designated site.

153. (currently amended) The method of claim ~~141~~151, wherein the plurality of droplets is deposited on the sample surface at different designated sites.

154. (currently amended) The method of claim ~~143~~153, wherein the different designated sites form an array.

155. (original) The method of claim 151, wherein step (a) comprises providing a plurality of reservoirs each holding a different analysis-enhancing fluid and step (c) comprises applying focused acoustic energy in a manner effective to eject a droplet of fluid from each reservoir such that the droplets are deposited on the sample surface.

156. (currently amended) The method of claim 145, further comprising, after step (d), (e) applying sufficient energy to the designated site to ionize and release ~~the~~ a sample ~~molecules~~molecule from the designated site of the sample surface for analysis.

157. (currently amended) The method of claim ~~156~~166, wherein step (e) comprises bombarding the designated site with photons.

158. (original) The method of claim 157, wherein photonic bombardment is carried out using a laser.

159. (original) The method of claim 156, further comprising, after step (e), (f) determining the molecular weight of the ionized sample molecules.

160-161. (canceled)

162. (new) The method of claim 126, wherein step (b) comprises bombarding at least one site with photons, electrons, ions, or combinations thereof.

163. (new) The method of claim 162, wherein step (b) further comprises heating the at least one site.

164. (new) The method of claim 162, wherein step (b) further comprises directing focused acoustic energy to the at least one site.

165. (new) The method of claim 162, wherein step (b) further comprises passing an electrical current through the at least one site.

166. (new) The method of claim 156, wherein step (e) comprises bombarding the designated site with photons, electrons, ions, or combinations thereof.

167. (new) The method of claim 166, wherein step (e) further comprises heating the designated site.

168. (new) The method of claim 166, wherein step (e) further comprises directing focused acoustic energy to the designated site.

169. (new) The method of claim 166, wherein step (e) further comprises passing an electrical current through the designated site.

170. (new) The device of claim 1, wherein the means for applying energy comprises a source of photons, electrons, ions, or combinations thereof.

171. (new) the device of claim 170, wherein the means for applying energy comprises a source of photons.

172. (new) The device of claim 171, wherein the means for applying energy comprises a laser.

173. (new) The device of claim 170, wherein the means for applying energy comprises a source of electrons.

174. (new) The device of claim 170, wherein the means for applying energy comprises a source of ions.

175. (new) The device of claim 57, wherein the means for applying energy comprises a source of photons, electrons, ions, or combinations thereof.

176. (new) the device of claim 175, wherein the means for applying energy comprises a source of photons.

177. (new) The device of claim 176, wherein the means for applying energy comprises a laser.

178. (new) The device of claim 175, wherein the means for applying energy comprises a source of electrons.

179. (new) The device of claim 175, wherein the means for applying energy comprises a source of ions.